WHAT IS CLAIMED IS:

1. An illumination device for display systems comprising:

a plurality of light sources;

at least one light diffusing plate optically coupled to the plurality of light sources and having a light incidence area for receiving light from the plurality of light source, wherein the plurality of light sources are distributed in a plane over an area 'S' that is at least approximately equal to or greater than the light incidence area of the at least one light-diffusing plate.

2. An illumination device according to claim 1, wherein

the display system comprises a display panel having a display area for displaying images;

the display panel is optically coupled to the at least one light-diffusing plate; and

the light incidence area of the at least one light-diffusing plate corresponds to the display area.

3. An illumination device according to claim 2, wherein

the display area has a width 'A' and a length 'B';

each one of the plurality of light sources is separated from adjacent light sources by a pitch 'G'; and

the area S is confined to the range defined by $(A+G) \times (B+G) \leq S \leq (A + 3G) \times (B + 3G)$.

4. An illumination device according to claim 2, wherein the display panel is a liquid crystal display panel.

5. An illumination device according to claim 1, wherein the plurality of light sources are light emitting diodes.

6. An illumination device according to claim 1, wherein the plurality of light sources are distributed in an array.

7. An illumination device according to claim 1, further comprising:

a device case enclosing the plurality of light sources, wherein the device case comprises a plurality of sidewalls having an inner surface and an outer surface.

8. An illumination device according to claim 7, wherein a portion of at least one of the plurality of sidewalls is inclined at an angle in the range of about 60 degrees to about 90 degrees relative to the plane of the plurality of light sources.

9. An illumination device according to claim 7, wherein a portion of at least one of the plurality of sidewalls is curved.

10. An illumination device according to claim 7, wherein the inner surface of at least one of the plurality of sidewalls is configured to scatter light within the device case.

11. An illumination device according to claim 7, wherein the inner surface of at least one of the plurality of sidewalls is configured to reflect light.

12. An illumination device for a display system comprising:

a light guide plate having at least one side edge surface and a light-emerging surface, wherein the at least one side edge surface is substantially orthogonal to the light-emerging surface; and

a plurality of light sources optically coupled to the light guide plate at the at least one side edge surface, wherein the plurality of light sources is placed along a length 'M' that is at least equal to or greater than a length of the at least one side edge surface of the light guide plate.

13. An illumination device according to claim 12, wherein

the display system comprises a display panel having a display area for displaying images;

the display panel is optically coupled to the light guide plate;

the display panel is substantially parallel to the light-emerging surface of the light guide plate; and

at least one side of the display area is substantially parallel to the at least one side edge surface of the light guide plate.

14. An illumination device according to claim 13, wherein

the at least one side of the display area that is substantially parallel to the at least one side edge surface of the light guide plate has a length 'B';

each one of the plurality of light sources is separated from adjacent light sources by a pitch 'G'; and

the length 'M' is confined to the range defined by $(B + G) \leq M \leq (B + 3G)$.

15. An illumination device according to claim 13, wherein the display panel is a liquid crystal display panel.

16. An illumination device according to claim 12, wherein the plurality of light sources are distributed in an array.

17. An illumination device according to claim 12, wherein the plurality of light sources are light emitting diodes.

18. An illumination device according to claim 12, further comprising:

a device case enclosing the plurality of light sources, wherein the device case comprises a plurality of sidewalls having an inner surface and an outer surface.

19. An illumination device according to claim 18, wherein a portion of at least one of the plurality of sidewalls is inclined at an angle in the range of about 60 degrees to about 90 degrees relative to a plane of the plurality of light sources.

20. An illumination device according to claim 18, wherein a portion of at least one of the plurality of sidewalls is curved.

21. An illumination device according to claim 18, wherein the inner surface of at least one of the plurality of sidewalls is configured to scatter light within the device case.

22. An illumination device according to claim 18, wherein the inner surface of at least one of the plurality of sidewalls is configured to reflect light.